Work Orde	-	96 7 	(May		*989	767*						Page 1	
Item ID: Revision ID:	D2332-041				Accept	*N900	040	100)* s	etup Sta	I A	S1*	
Item Name:	Lid Prop Asse	mbly 6.69	9" long							Sto	^ф *N	S2*	
Start Date:	3/27/13	Start (Qty: 10.00	*10*		Cust Item I	ID:						
Required Date:	3/27/13	Req'd	Qty: 10.00	*10*		Customer:		•			•		
Reference:								٠.					
Approvals:	Process Pla	n:	W	Date: 1301-2	Tooling:	D	ate:	-	R	Run Sta	1/1	R1*	
	QC:		,	Date:	SPC (Y/N):	D	ate:			Sto	^{'p} *N	R2*	
Sequence ID/ Work Center II	D	Operat Descrip			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	*-
Draw Nbr	Rev	ision Nb	r				1, ,						
D2332	Rev	C1											
100					0.00			.,,				FF	
100						•	• •		10	_ Ø		FF 13-04.	15
Small Fab			Memo	22.7 1.02222.6.1 1.	0.00					,		•	1
Small Fab				32-7 and D2332-5 to lenght									
			2- Cut D233	32-11 using 1/2" S.S tubing	7.735" long.								
			3- Deburr.							ě			
110					0.00		ı				f	Ŧ	
110									10	A.	, 17	-p -04-15	_
Brake NC			Memo		0.00	•			10	-Ψ			

Punch and form D2332-11 to lenght as per dwg D2332 using DT8012 (need 2 per ass'y)

Brake NC

									*		DQA:	Date:	
NCR:	⁄es	/ No				WORK ORDER NON-	CO	NFOR	MANCE / UPDATE	E			
											QA Closed:	Date	
Work Orde	· ·					DISPOSITION			A	GAINST DE	PARTMENT	/PROCESS	
WOIK OIGE	=1.		· · · · · · · · · · · · · · · · · · ·	·		Rework	7		Skid-tube Cro	osstube	1	Water Jet	Engineering
Part N	No.					Scrap	1			nall Fab	Pro	d. Eng. Coor.	Quality
	-					Use-as-is	1	t .	~ —	inishing	Rec/Sto	re/Packaging	Other
NCR I	No.					Work Order Update]		Large Fab Cor	nposite		Supplier	
				,	T			<u> </u>	····				
Root	i i I I				ption of work order update		Initial	Action		Sign &	_		
Cause		Date	Step	Qty		or Non-conformance		nief Eng	Description	1	Date	Verification	QC Inspector
Doc/Data	Ш						ľ						
Equip/Tooling	poling												
Operator							ľ						
Material											,		
Setup													·
Other							1.				·		·
Process							ľ						
Supplier	Ш												1
Training	Ш												
Unapproved													
						F	AUI	LT CATE	GORY				
Landi	ng G	Gear				General		_					-
	Bending					Bend		Grain			Ovalized		Pressure/Forced
	Centre Not Concentric to O/S					BOM/Route		Hardwa	re	<u></u>	Over/Under	tolerance	Temperature/Cure
	Cracks					Broken/Damaged	L	Inspect	ion Incomplete		Part Incorre	t	Weld
	Crushed/Crimped					Burrs		Instruct	ions Incomplete/Unclea	r	Part Lost/Mi	ssing	Wrong Stock Pulled
1	Cuffs			Contamination		Mainte	enance		Part Moved				

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

March-28-13 1	0:47:40 AM			7								
Item ID: Revision ID:	D2332-041			Accept	*N90	<u> </u>	1100) *	Setup Start Stop	14.	31*	
Item Name:	Lid Prop Asse	embly 6.69" long								*N.	ラブ "。	
Start Date:	3/27/13	Start Qty: 10.00	*10*		Cust It	em ID:						
Required Date:	: 3/27/13	Req'd Qty: 10.00	*10*		Custon	ner:						
Reference:			•					_	- C/ /			
Approvals:	Process Pla	ın:	Date:	Tooling:		Date:		i	Run Start	*NF	₹1*	
	QC:	·	Date:	_ SPC (Y/N):		Date:			Stop	*NF	₹2*	
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool 1	ID Tool #	Plan Code	Accept Qty	•	Reject Number	Insp. Stamp	
-120				0.00				17	~		8	-
120 Small Fab		Memo		0.00				10	<i>—9</i> —		13-¢	34
Small Fab			in D2332-11 as per dwg r ass'y)	D2332 using drill jig D1	8459							
		2- Ensure no	o forein objects inside tub	e _.							:	•
		3- Deburr			. 2.4 .						,	
130		QC5- Inspect part compl	eteness to step on W/O	0.00	27			ic				
130				1:	2 (1 16			10				
QC		Memo		0.00	3416							
Quality Control											•	
140				0.00							:	
140 Large Fab				0.00	-			10	E1	3-4	-16	i I
Large Fab		Memo Weld D2332	2-11 and D2332-5 as per									i

Weld D2332-11 and D2332-5 as per dwg (weld 1 per ass'y)
*****ensure nothing is inside of tube before welding*******

S.S Rod batch: / 122357

											DQA:	Date	2:
NCR: Y	'es /	No				WORK ORDER NON-	CON	IFORM	MANCE / UPI	DATE		:	
											QA Closed:	Date	2:
Work Orde	٠ŕ٠					DISPOSITION	1			AGAINST D	EPARTMENT,	/PROCESS	
Work Orde	··· —					Rework	7 I		Skid-tube	Crosstube	7	Water Jet	Engineering
Part N	lo.					Scrap	11	ſ	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is		Therm	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR N	1o. <u> </u>					Work Order Update] [Large Fab	Composite		Supplier	
Root	<u> </u>			T	Descri	ption of work order update	lr.	nitial	Act	ion	Sign &		
Cause	1	Date	Step	Qty		or Non-conformance	1	ef Eng		ription	Date	Verification	QC Inspector
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Other		Ì					ľ				·		
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upplier													
raining													
Inapproved													
		·					FAUL1	CATE	GORY				
Landi	ng Ge	ar				General	_			· · · · ·	_	_	_
:	Ве	ending			L	Bend	Ш	Grain			Ovalized		Pressure/Forced
	∐c•	entre No	t Concer	ntric to C	o/s	BOM/Route		Hardwa	re	L	Over/Under	 	Temperature/Cure
	c	racks			<u> </u>	Broken/Damaged	-	-	on Incomplete		Part Incorre	<u> </u>	Weld
	L Cı	rushed/0	Crimped			Burrs		Instruct	ions Incomplete/U	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	L C	uffs				Contamination		Mainte	nance		Part Moved		
	Щн	eat Trea	t			Countersink	-	Mislabe			Positioned V		- - -
	Inspection Strip in Tube Cut Too Short				Misread	1		Power Loss/	Surge	Other			
	Ripples in Bend Drill Holes				Offset	•							
	Щт	orque W	aves in E	xtrusion	·	Drawing	-		Calibration				
	Tu	urning Se	equence		Finish			Out of S	equence				

Wave/Twist in Tube



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Work Ord March-28-13 1				*980	967*						Page 3
Item ID: Revision ID:	D2332-041			Accept	*N900	040	100)* s	etup Star Stop	1 71	S1*
Item Name: Start Date: Required Date Reference:	3/27/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item I Customer:	D:				IN	S2*
Approvals:		Plan:	Date:	Tooling: SPC (Y/N):		ate:		R	tun Star Stop	1/1	R1* R2*
Sequence ID/ Work Center I 150 *150* QC Quality Control	ID	Operation Description QC9- Inspect visual per C	S1004- Fusion Welds	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty \\3-©	Reject Number	Insp. Stamp OAS 09
*160 *160* QC Quality Control		QC5- Inspect part comple Memo	teness to step on W/O	0.00 0.00				<u>(5)</u>	13.6	<u> </u>	0A 09 & 89

170

Small Fab

170 Small Fab

Memo 1- Tumble

2- Assemble as per dwg D2332

0.00

0.00

10 BB 13-4-17.

												DQA:	Da	ate:		
NCR: Y	es	/ No					WORK ORDER NON-C	100	IFORI	MANCE / UPE	DATE					
						-							QA Closed:	D:	ate:	
Nork Orde	r.					ı	DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS		
WOIN OT GE	·· -				·	ı	Rework	1 1		Skid-tube	Crosstube		1	Water Jet	:	Engineering
Part N	lo.					١	Scrap			Machining	Small Fab		Pro	d. Eng. Coor		Quality
	-					ı	Use-as-is		Therr	moforming	Finishing		Rec/Sto	e/Packaging		Other
NCR N	lo		<u>.</u>	· <u></u>			Work Order Update			Large Fab	Composite]	Supplie		
	7				D	_	Ata - Af al			A _4:			Cian 0		-	
Root Cause		Date	Step	Qty	Desc	_	tion of work order update r Non-conformance	ŀ	nitial ief Eng	Acti Descri			Sign & Date	Verification	\n	QC Inspector
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ļ		Cracks				-	Broken/Damaged	-	i '	ion Incomplete			Part Incorred			Weld
	-	Crushed/C	Crimped	•	·		Burrs		1	tions Incomplete/U	nclear		Part Lost/Mi	ssing	L	Wrong Stock Pulled
		Cuffs					Contamination			enance			Part Moved			
	-	Heat Trea			-	_	Countersink	Ш	Mislabe	eled			Positioned V	_	_	1
		Inspection		Tube	. `	_	Cut Too Short		Misread	d			Power Loss/	Surge		Other
	Ripples in Bend Drill Holes				\vdash	Offset										
	Torque Waves in Extrusion Drawing			\vdash	ł	Calibration										
	Turning Sequence Finish			L_	Out of S	Sequence										
	Wave/Twist in Tube Folio					Outside	e Dimensions									

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 98967 Page 4 March-28-13 10:47:40 AM Accept Item ID: D2332-041 *N900040100* Setup Start **Revision ID:** Lid Prop Assembly 6.69" long Item Name: **Start Qty: 10.00** *10* **Start Date:** 3/27/13 **Cust Item ID:** Req'd Qty: 10.00 Required Date: 3/27/13 **Customer:** Reference: Run Process Plan: Tooling: **Approvals:** Date: Date: Stop Date:_____ SPC (Y/N): QC: Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. **Work Center ID** Description Code Qty Qty Number Stamp **Run Hours** 180 OC5- Inspect part completeness to step on W/O 0.00 10 *120* 0.00 Memo Quality Control Identify as per dwg & Stock Location: 0.00 190 *10N* 57200 0.00 Packaging Memo Packaging

200

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

Quality Control

MIS 1304-17

	DQA Date											
NCR: Y	es / No				WORK ORDER NON-	COI	VFORM	MANCE / UPDATE		DA Clasadi	Data	
							*			QA Closed:	Date	
Work Orde	ŕ:				DISPOSITION			AGAINST	DEP	ARTMENT	PROCESS	
					Rework	٦		Skid-tube Crosstube			Water Jet	Engineering
Part N	0.				Scrap	1		Machining Small Fab		Pro	d. Eng. Coor.	Quality
	-	٠			Use-as-is	1		noforming Finishing	П		e/Packaging	Other
NCR N	O				Work Order Update			Large Fab Composite			Supplier	
								· · · · · · · · · · · · · · · · · · ·				
Root					ption of work order update	- 1	nitial	Action		Sign &		
Cause	Date	Step	Qty	(or Non-conformance		ief Eng	Description	\rightarrow	Date	Verification	QC Inspector
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quip/Tooling	ing										•	
perator	 							•	- 1			
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Other					,							'
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Landin C	g Gear		•	_	General	·	1		\Box	- "	Г	7
	Bending	_			Bend	ļ	Grain		—	Ovalized		Pressure/Forced
1	Centre N	ot Conce	ntric to	^{O/S}	BOM/Route	-	Hardwa	· ·	-	Over/Under	<u></u>	Temperature/Cure
,	Cracks			<u> </u>	Broken/Damaged	<u> </u>	1	on Incomplete	\vdash	Part Incorred	├	Weld
	Crushed	'Crimped		<u> </u>	Burrs	-	4	ions Incomplete/Unclear	\mathbf{H}	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs			<u> </u>	Contamination	\vdash	Mainte	•		Part Moved		
,	Heat Tre			ļ	Countersink	<u> </u>	Mislabe		$\overline{}$	Positioned W		ا - ا
	Inspection		Tube		Cut Too Short	_	Misread	i		Power Loss/	Surge	Other
]	Ripples i			· <u> </u>	Drill Holes	<u> </u>	Offset		-		13000	
1	_	Vaves in I		n	Drawing	<u> </u>	4	Calibration	_			<u> </u>
		Sequence		L	Finish	<u> </u>	4	Sequence	_			
Wave/Twist in Tube			Folio	-1	Outside	Dimensions						

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March-28-13 10:47:40 AM

Work Order ID:

98967

Parent Item:

D2332-041

Parent Item Name:

Lid Prop Assembly 6.69" long

Start Date: 3/27/13

Required Date: 3/27/13

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP: B02.08.12Re-format; Incorporated D2332-13/-11/-7/-5KJ/RF

Component Item ID/ tem Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure		ty per Kit	Total Qty	Qty Issued	Date Issued	Status
N4-4A olt		Purchased	No			170	Each	99.0000	1	10	RV	13-4-	-17.
oit	•			Location		Loc Qty	T.	oc Code	C. 1000 AT Va. 17		<i></i>		
				FP001		26	<u> </u>	oc couc					
					615	6							
					187	20				0			
•				ST355		73							
· · · · · · · · · · · · · · · · · · ·	ſ.	/		123	900	73							
N960JD416L asher	NAS1149D0416J	Purchased	No		·	170	Each	6.0000	3	30	_BL	13-4	-17.
				Location		Loc Qty	<u>L</u>	oc Code	_				
				FP001 /2	3741.	6			_	Ď,			
					153	6	٠.						
304R.250 04 SS Round bar .250		Purchased	No			100	f	65.5971	0.1	1.052632	F	F 13	-04-1
	,	•		Location		Loc Oty	<u>L</u>	oc Code	*				·
				MAT028		65.5971							
				114	482	5.1							
					243	15.6838				1.0526			
20 4770 50011 025			N I-	122	682	44.8133		370 3100					
1 304TR0.500W.035 04 RD Tube .500 x .035V	W	Purchased	No			110		379.4189	1.25	13.157895	F	FB	-04-
				Location		Loc Oty	L	oc Code					
				MAT017		379.41894							
					633	70.1979				•	· **	u.	
					848	29.92344 201.9106		3.94	75		ा हु हा		
				A.	303 449	77.387				30			
· • <u>•</u>				1 4 122		,,,507		9.210	4	•			Ŕ.

					•							DQA:	Date	2:
NCR:	⁄es	/ No					WORK ORDER NON-	COI	NFORM	MANCE / UF	PDATE	QA Closed:	Date	2:
Vork Ord	∍r•						DISPOSITION				AGAINST (DEPARTMENT	/PROCESS	
Part I	٠ ا	<u></u>					Rework Scrap Use-as-is Work Order Update		1 Thern	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Des	-	otion of work order update		Initial		ction	Sign &		
Cause	-	Date	`~Step	Qty	<u> </u>		or Non-conformance	Cr	nief Eng	. Desc	cription	Date	Verification	QC Inspector
oc/Data quip/Tooling perator flaterial etup ther rocess upplier raining			· ·				÷.						 .	-45mg
napproved			L	<u> </u>	l				T CATE	CORY				, , , , , , , , , , , , , , , , , , ,
Landi							· · · · · · · · · · · · · · · · · · ·	FAUI	T CATE	GURT				
Landi	Bending Centre Not Concentric to O/S Cracks Broken/Damaged Burrs Cuffs Cuffs Contamination Heat Treat Cuspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Bend BoM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish				Instruct Mainte Mislabe Misread Offset	on Incomplete ions Incomplete, nance iled	/Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other				
		Turning S	aguanca				Finish		Out of s	Convence				

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Wave/Twist in Tube

March-28-13 10:47:40 AM

Work Order ID: 98967 Parent Item: D2332-041 **Start Date: 3/27/13** Required Date: 3/27/13 Parent Item Name: Lid Prop Assembly 6.69" long **Start Qty: 10.00** Required Qty: 10.00 M304TR1.000W.049 100 No 21.2459 0.43 Purchased 4.526316 304 RD Tube 1.00 x .049W Location Loc Qty Loc Code 1.8104 4 MAT018 125250 21.24593 117598 0.00003 120654 21.2459 MS21042L4 Purchased 170 3,110.0000 No Each Nut Loc Oty Location Loc Code FP001 318 122452 306 8182 12 FP-001 12 8182 12 GA 34 34 121444 ST314 76 116548 119017 20 123248 36 123355 16

2670

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124231

	DQA:Date:											
NCR: Ye	es / No				WORK ORDER NON-	COI	VFORM	MANCE / UPI	DATE	QA Closed:	Date:	
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Work Ordei	r:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part No					Rework Scrap		ľ	Skid-tube Machining	Crosstube Small Fab	4	Water Jet d. Eng. Coor.	Engineering Quality
NCR N	o				Use-as-is Work Order Update]		noforming Large Fab	Finishing Composite	Rec/Stoi	e/Packaging Supplier	Other
Root		-	. 1 %	Descri	iption of work order update	1	nitial	Act	tion	Sign &		
Cause	Date	Step	Qty	ı	or Non-conformance		ief Eng	Desci	ription	Date	Verification	QC Inspector
ooc/Data quip/Tooling Operator Material Setup Other Process Supplier Training											· ·	
Inapproved		<u> </u>	<u> </u>	i		<u> </u>	T CATE	CORV		<u>'</u>		
1	- Cast				General	raul	T CATE	JUNT				
	ling Gear Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs			o/s	Bend BOM/Route Broken/Damaged Burrs Contamination		4 '	on Incomplete ions Incomplete/	Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved	ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
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	Inspectio	n Strip in	Tube		Cut Too Short	<u> </u>	Misread	i	L	Power Loss/	Surge	Other
1	Ripples in Bend Drill Holes			–	<u> </u>	Offset						
Ĺ	Torque Waves in Extrusion Drawing			Drawing	Ŀ	4	Calibration				·	
	Turning Sequence Finish			: [Out of 9	Sequence				•		

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Turning Sequence

Wave/Twist in Tube

Finish

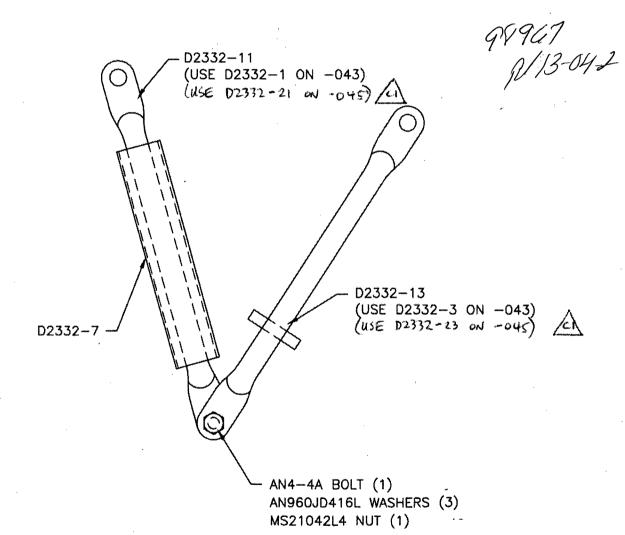




					•
١	DESIG	#	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	CHEC	(ED)	APPROVED	DRAWING NO.	REV. C
′		#	#	D2332 SHEET	1 OF 2
	DATE			TILE	SCALE
	03.0	7.03		LOD PROP ASSEMBLY	NTS
	Α		94.12.16	NEW ISSUE	
	R		97.09.30	CHANCE 416 WASHEDS TO 4161	



Α	94.12.16	NEW ISSUE
 В		CHANGE 416 WASHERS TO 416L
С	L	MAKE -041 PROP 6.69" LONG (STD) MAKE -043 PROP 8.00" LONG (OPT.)
CI	#4 03 08.06	ADD - 045 PROP (7.25" LONG)



D2332-041 SHOWN (D2332-043 SIMILAR) (D2332-045 SIMILAR)



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